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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,888	07/28/2005	Thomas Maier	S3-02 P 10183	8848

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EXAMINER

THOMAS, LUCY M

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/521,888	MAIER, THOMAS	
	Examiner	Art Unit	
	Lucy Thomas	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-16 and 18 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/19/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 9, 11-13 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Hanzawa et al. (US 6,538,866). Hanzawa et al discloses a sensor protection circuit 1 (Figures 1, 3-7, 10) for at least one sensor F1, the protection circuit which comprises at least one supply line VCCS for supplying current to the sensor, a current measuring unit 3 for detecting an electric current flowing through said supply line for preventing damage to the sensor from excess voltage, and said current measuring unit having connected thereto at least one of a current limiting device RC1, RC2 for limiting the electric current and a circuit element M1 for disconnecting said at least one supply line (Column 4, lines 1-10, 17-26, 37-54). Regarding Claim 11, Hanzawa et al. discloses a sensor protection circuit, wherein said circuit element for disconnecting said at least one supply line is connected to a control input (see Figure 1, output of M1 connected to M2).

Regarding Claim 12, the sensor protection circuit disclosed by Hanzawa et al. does not show the signal line for recording a sensor signal from the sensor, however, a signal line is necessarily part of the sensor circuit to record the outcome of the

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measurement of the quantity such as temperature, pressure, acceleration etc. for which the sensor is used.

Regarding Claim 13, Hanzawa et al. discloses a sensor protection circuit, which comprises a voltage line VCCS and a ground line GND each connected to and supplying current to the sensor (Column 4, lines 1-10). Regarding Claim 18, Hanzawa et al. discloses, in combination with a motor vehicle, a sensor protection circuit for a sensor connected in an electric circuit of the motor vehicle (Column 1, lines 1-11).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10, 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanzawa et al. (US 6,538,866) in view of Shorey (US 5,414,792). Regarding Claim 10, Hanzawa et al. discloses a sensor protection circuit, wherein supply line VCC is monitored by the current measuring unit, instead of a ground line. It would have been obvious to those skilled in the art to connect a current measuring unit to either of the supply line or ground line and configure the circuit accordingly, because under normal conditions current flow in the supply line would be equal to current flow in the ground line. One would chose placement of the sensor based on convenience or location with regard to other elements in the circuit. Regarding Claim 14, Hanzawa et al. discloses a

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the sensor protection circuit, which comprises means for preventing excess voltages connected in at least one of said voltage line, and said ground line, connected to the sensor (Figure 10, Column Lines 13-27). Regarding Claims 15 and 16, Hanzawa et al. discloses that the sensor protection circuit, may include at least one Zener diode ZD1 (Figure 10) as recited in Claim 15, which is connected between the voltage line or the signal line and the ground line as recited in Claim 16. It would have been obvious to those skilled in the art to provide a Zener diode as a Zener diode allows for more accurate establishment of reference voltages greater than the voltage drop across a single pn junction (conventional diode). Hanzawa et al. fails to disclose at least one capacitor. Shorey discloses a sensor protection circuit, which comprises means for preventing excess voltages, which includes at least one capacitor 42, which is connected between the voltage line or the signal line and the ground line. It would have been obvious to those skilled in art at the time the invention was made to modify Hanzawa's sensor protection circuit to provide a capacitor as taught by Shorey, because the capacitor filters the unwanted transients or noise in the input voltage.

Allowable Subject Matter

4. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter: Claim 17, which includes the limitations of Claims 9, 13-15, further adds that the sensor comprises at least one Zener diode for short circuit protection with a higher

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breakdown voltage than the Zener diode for preventing excess voltages. The combined limitations are not disclosed by the Prior Art of Record, thereby rendering the claimed combination allowable.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy Thomas whose telephone number is 571-272-6002. The examiner can normally be reached on Monday - Friday 8:00 AM - 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT
October 24, 2005



**PHUONG T. VU
PRIMARY EXAMINER**